Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-20 were presented. Claims 1, 8, 15 and 16 are amended. Claims 3 and 10 are canceled without prejudice. Claims 1, 2, 4-9 and 11-20 are now pending.

Claim Rejections – Nagumo and Okano

Claims 1, 2, 8, 9, 15 and 16 are rejected under 35 USC 102(a) as anticipated by Nagumo (US 2002/0075372). Claims 3, 4, 10 and 11 are rejected under 35 USC 103(a) as obvious over Nagumo in view of Okano (4,887,224). In response, applicant traverses the rejections and amends independent claims 1, 8 and 15 to clearly distinguish over Nagumo and Okano.

The present invention is directed to an image forming device that can save toner for a target pixel and that reduces the complexity of image forming device circuitry. The image forming device includes a plurality of holding units that hold data of pixels around a target pixel. A weight generating unit generates a weight for each holding unit and a corresponding weight is applied to the data held by each holding unit by a plurality of weight applying units. Importantly, the weight generating unit is a register that stores the weight and is provided to each holding unit. In this manner, a control unit determines an exposing energy for the target pixel in accordance with an output of each weight applying unit. This feature saves toner using simplified circuitry in comparison to conventional laser printer systems.

Page 4 of the Action concedes that Nagumo does not disclose or suggest a register. Okano is asserted to remedy the deficiencies of Nagumo in this regard by teaching FIFO registers 71, 81 at column 8, line 25. However, Okano merely teaches a FIFO register 71 provided to store CPU numbers and a FIFO register 81 provided to store MMR encoded data (col. 8, line 46 and col. 9, lines 19-21). Okano further fails to disclose a FIFO register provided to a single or plurality of holding units for holding data of pixels around a target pixel (FIG. 8). Instead, Okano teaches a buffer 82 supplied with a channel attention signal as an I/O address

composed of a channel command code and a CPU number (col. 8, lines 34-44). Thus, Okano fails to disclose or suggest a register provided to store a weight and that is provided to each holding unit that holds data of pixels around a target pixel. The present invention, by contrast, provides a register to store a weight for data pixels around a target pixel and which is provided to each holding unit that holds data of pixels around a target pixel.

To emphasize this feature, claims 1 and 8 are amended to recite that the weight generating unit is a register that stores the weight and is provided to each holding unit. Similarly, method claim 15 is amended as follows:

> *extracting data of pixels around a target pixel;*
>
> *holding the extracted data of pixels around a target pixel in a holding unit;*
>
> *generating a weight for each extracted data;*
>
> *storing the generated weight in a register different from the holding unit;*

Furthermore, applicant submits that the combination of Nagumo and Okano is improper hindsight afforded only by the benefit of applicant's invention. Nagumo is directed to an image recording apparatus supplying driving current while Okano is directed to MMR encoding and decoding. Therefore, Nagumo and Okano are directed to different problems and, if Okano's purpose and context are considered, it makes no sense and there is no motivation to modify Nagumo with the teachings of Okano. Okano is not concerned with toner saving and the storage of weights to determine an exposing energy for a target pixel, that would motivate one to seek the use of a register for storing weights. Rather, Okano is concerned only with the encoding and decoding of image data by the MMR facsimile coding scheme. Okano contains no teaching or suggestion of registers for storing weights, and it would make no sense for Okano to contain such a suggestion since Okano is concerned

only with encoding and decoding operations. Therefore, the registers of Okano have no relevance or use to the disclosure of Nagumo.

Since Nagumo does not disclose each and every feature of claims 1, 8 and 15, it cannot anticipate or render obvious claims 1, 8 and 15 or claims dependent thereon. Accordingly, the rejections of claims 1, 2, 8, 9, 15 and 16 under 35 USC 102 and the rejections of claims 3, 4, 10 and 11 under 35 USC 103 should be withdrawn.

Claim Rejections – Hara and Ernst

Claims 5-7, 12-14, 17, 18 and 20 are rejected as obvious over Nagumo in view of Hara (US 5,774,167). Claim 19 is rejected as obvious over Nagumo in view of Ernst (US 6,356,291). Applicant believes "Claim 20 is rejected..." on page 8 of the Action is a typographical error as the Office refers to "claim 19" in the discussion of the rejection.

Claims 5-7, 12-14 and 17-20 depend from claims 1, 8 and 15 and are allowable for the same reasons as discussed above. Hara is cited for its relevance to an image processing device with dot diameter control including a pattern matching circuit 10 (abstract and col. 9). However, Hara does not remedy the deficiencies of Nagumo with respect to claims 1, 8 and 15, and is not relied on in this manner by the Action. Similarly, Ernst is cited for its relevance to a printing device including a Look Up Table 109 (col. 3,lines 1-7), but does not remedy the deficiencies of Nagumo and is not asserted to do so by the Action. For these reasons, the rejections of claims 5-7, 12-14 and 17-20 under 35 USC 103(a) should be withdrawn.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment.

Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
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